

WHAT IS CLAIMED IS:

1. A high thermally conductive and high strength molding composition having a thermal conductivity of at least 4 W/m²K and a tensile strength of at least 15 ksi and being net-shape moldable, comprising:

a polymer base matrix of, by volume, between approximately 30 and 70 percent;

a first filler of high modulus PITCH-based carbon material, by volume, between approximately 15 and 47 percent; said first filler having an aspect ratio of at least 10:1;

a second filler of PAN-based carbon material, by volume, between approximately 10 and 35 percent, said second filler having an aspect ratio of at least 10:1.

2. The molding composition of Claim 1, further comprising:

a third filler of thermally conductive material, by volume, between 1 and 10 percent, said third filler having an aspect ratio of less than 5:1.

3. The molding composition of Claim 1, wherein said polymer base matrix is a polycarbonate material.

4. The molding composition of Claim 1, wherein said polymer base matrix is a liquid crystal polymer material.

5. The molding composition of Claim 1, wherein said first filler is of a fiber configuration.

6. The molding composition of Claim 1, wherein said second filler is of a fiber configuration.

7. The molding composition of Claim 1, wherein said first filler is of a flake configuration.

8. The molding composition of Claim 1, wherein said second filler is of a flake configuration.

